This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.086 MGD wastewater treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia WQS at 9VAC25-260-00 et seq (effective January 6, 2011) and updating permit language, as appropriate, to reflect current boilerplate. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1. Facility Name and Mailing Address: St Louis WWTP, PO Box 4000, Ashburn VA 20146 — SIC Code : 4952 WWTP

   Facility Location: 151 Newlin Mill Rd, St Louis, VA 20117 — County: Loudoun

   Facility Contact Name: Les Morefield — Telephone Number: 571-291-7700

2. Permit No.: VA0062189 — Expiration Date of previous permit: 8/30/2011

   Other VPDES Permits associated with this facility: None

   Other Permits associated with this facility: None

   E2/E3/E4 Status: Not Applicable

3. Owner Name: Loudoun Water

   Owner Contact/Title: Dale Hammes, General Mgr — Telephone Number: 571-291-7700

4. Application Complete Date: January 25, 2010

   Permit Drafted By: Alison Thompson — Date Drafted: 4/6/2011

   Draft Permit Reviewed By: Joan Crowther — Date Reviewed: 4/25/2011

   WPM Review: Bryant Thomas — Date Reviewed: 5/9/2011

   Public Comment Period : Start Date: 6/29/11 — End Date: 7/29/11

5. Receiving Waters Information: See Attachment 1 for the Flow Frequency Determination.

Receiving Stream Name :	Beaverdam Creek, UT		
Drainage Area at Outfall:	0.59 sq.mi.	River Mile:	1aXME000.01
Stream Basin:	Potomac River	Subbasin:	Potomac River
Section:	9	Stream Class:	III
Special Standards:	None	Waterbody ID:	VAN-A07R
7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD
303(d) Listed:	Yes	30Q10 Flow:	0.0 MGD
TMDL Approved:	Yes (sediment/bacteria)	Date TMDL Approved:	EPA 5/1/03, SWCB 6/17/04

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

   ✓ State Water Control Law
   ✓ Clean Water Act
   ✓ VPDES Permit Regulation
   ✓ EPA NPDES Regulation
   ✓ EPA Guidelines
   ✓ Water Quality Standards
   ___ Other

7. Licensed Operator Requirements: Class III

8. Reliability Class: Class II

9. Permit Characterization:

___ Private	___ Effluent Limited	___ Possible Interstate Effect
___ Federal	✓ Water Quality Limited	___ Compliance Schedule Required
___ State	___ Toxics Monitoring Program Required	___ Interim Limits in Permit
✓ POTW	___ Pretreatment Program Required	___ Interim Limits in Other Document
✓ TMDL		

10. Wastewater Sources and Treatment Description:

The St Louis STP serves the small community of St Louis with an approximate population of 200 (approximately 70 connections). There are no known industrial discharges to the STP.

The 0.086 MGD STP treats the municipal wastewater utilizing bar screening, 3 lagoons, 2 sedimentation basins, chlorination and dechlorination, and post aeration. See Attachment 2 for the site plan and plant process schematic for the existing facility.

TABLE 1 – Outfall Description

Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.086 MGD	**39° 00' 27"** N **77° 47' 50"** W
See Attachment 3 for (Bluemont, DEQ #216D) topographic map.				

11. Sludge Treatment and Disposal Methods:

St Louis STP's process system utilizes 3 lagoons. These lagoons do not generate sewage sludge.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge

TABLE 2

1aXGU000.18	DEQ monitoring station on Beaverdam Creek, UT approximately 0.54 rivermiles downstream from Outfall 001.
1aBEC009.08	DEQ monitoring station on Beaverdam Creek.
1aBEC011.19	DEQ monitoring station on Beaverdam Creek.

13. Material Storage:

TABLE 3 - Material Storage

Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Chlorine tablets	2-3 buckets	Stored inside
Sodium Bisulfite tablets	2-3 buckets	Stored inside

14. Site Inspection:

Performed by Sharon Allen DEQ-NRO Water Compliance on June 1, 2011 (Attachment 4).

15. Receiving Stream Water Quality and Water Quality Standards:

a) Ambient Water Quality Data

The receiving stream for this facility is an Unnamed Tributary to Beaverdam Creek, XME. XME discharges to another unnamed tributary (XGV) which discharges to yet another unnamed tributary (XGU). The nearest downstream DEQ monitoring station is Station 1aXGU000.18. Station 1aXGU000.18 is located approximately 0.54 rivermiles downstream of Outfall 001.

The following is a monitoring summary for Station 1aXGU000.18 as taken from the 2010 Integrated Assessment: *DEQ freshwater probabilistic monitoring station 1aXGU000.18, downstream from Route 790.Biological and associated chemical monitoring indicate that the aquatic life, fish consumption and wildlife uses are fully supporting. The recreation use was not assessed.*

There are several downstream impairments, one on Beaverdam Creek, and several on Goose Creek:

Beaverdam Creek: Recreational Use Impairment (*E. coli* bacteria). Sufficient excursions from the maximum E. coli bacteria criterion (4 of 6 samples - 66.7% at station 1aBEC011.19) were recorded at DEQ's ambient water quality monitoring station (1aBEC011.19) at the Route 626 crossing to assess this stream segment as not supporting the recreation use goal for the 2010 water quality assessment. This impairment is located approximately 2.12 rivermiles downstream from the Outfall for VA0062189.

Goose Creek – Aquatic Life Use Impairment (Sediment). One of 2 biological monitoring events in 2008 at station 1aGOO002.38 (Route 7) resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these two sampling events. This impairment is located approximately 24 rivermiles downstream from the Outfall for VA0062189.

Goose Creek and Goose Creek Reservoir – Fish Tissue Impairment (PCBs). The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month. The affected area includes the following tributaries between the Virginia/Maryland state line near the Route 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Goose Creek up to the Dulles Greenway Road Bridge, Broad Run up to the Route 625 bridge, Difficult Run up to the Route 7 bridge, and Pimmit Run up to the Route 309 bridge. Additionally, there were exceedances of the water quality criterion based tissue screening value (TV) of 20 parts per billion (ppb) for polychlorinated biphenyls (PCBs) in American eel (2004, 2004) and smallmouth bass (2004). This impairment is located approximately 23 rivermiles downstream from the Outfall for VA0062189.

There is a completed downstream TMDL for nutrient impairments for the Chesapeake Bay. This facility does not have nutrient concentration limits since there is no expansion planned. However, it was assigned a WLA in the TMDL based on the current design flow.

The full planning statement has been placed in the reissuance file.

b) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream Beaverdam Creek, UT is located within Section 9 of the Potomac River Basin, and classified as a Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C, and maintain a pH of 6.0-9.0 standard units (S.U.).

Attachment 5 details other water quality criteria applicable to the receiving stream.

Ammonia:
The fresh water, aquatic life Water Quality Criteria for Ammonia are dependent on the instream temperature and pH. The 90th percentile temperature and pH values are used because they best represent the critical design conditions of the receiving stream.

The 7Q10 and 1Q10 of the receiving stream are 0.0 MGD. In cases such as this, effluent pH and temperature data may be used to establish the ammonia water quality standard. The facility discharges intermittently, so all data from a four year period was used to derive the 90th percentile annual values for pH and temperature. A default value of 15°C was used for the wet season temperature since the data set was limited. See Attachment 6 for the derivation of the 90th percentile values of the effluent pH (8.0 S.U.) and temperature (25.6°C) data from May 2007 to October 2010.

Metals Criteria:
The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/L calcium carbonate). There is no hardness data for this facility. Staff guidance suggests using a default hardness value of 50 mg/L $CaCO_3$ for streams east of the Blue Ridge. The hardness-dependent metals criteria in Attachment 5 are based on this default value.

Bacteria Criteria:
The Virginia Water Quality Standards (9VAC25-260-170 A.) states that the following criteria shall apply to protect primary recreational uses in surface waters:

1) *E. coli* bacteria per 100 ml of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 ml)	126

[1]For a minimum of four weekly samples [taken during any calendar month].

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Beaverdam Creek, UT, is located within Section 9 of the Potomac River Basin. This section has been designated with no special standards.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on January 19, 2011, for records to determine if there are threatened or endangered species in the vicinity of the discharge. No threatened or endangered species were confirmed within a 2 mile radius of the discharge. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies

are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1. The facility discharges to a stream with critical stream flows of 0.0 MGD and at times the stream is comprised entirely of effluent. It is staff's opinion that streams comprised entirely of effluent are Tier 1.Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development :

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLA) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLA's are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data.

a) Effluent Screening:
Effluent data obtained from the Discharge Monitoring Reports has been reviewed and determined to be suitable for evaluation. Effluent data were reviewed, and there have been no exceedances of the established limitations. The following pollutants require a wasteload allocation analysis: Ammonia as Nitrogen and Total Residual Chlorine.

b) Mixing Zones and Wasteload Allocations (WLAs):
Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f) (Q_s)] - [(C_s) (f) (Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; 30Q10 for ammonia criteria; harmonic mean for carcinogen-human health criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

The water segment receiving the discharge via Outfall 001 is considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c) Effluent Limitations Toxic Pollutants, Outfall 001 –

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Ammonia as N:

Staff reevaluated pH and temperature and has concluded it is different than what was used previously to derive ammonia criteria. As result, staff used the new data to determine new ammonia water quality criteria and new wasteload allocations (WLAs). DEQ guidance suggests using a sole data point of 9.0 mg/L for discharges containing domestic sewage to ensure the evaluation adequately addresses the potential for ammonia to be present in the discharge containing domestic sewage. Since the discharge is intermittent, only the acute WLA was considered in the limit evaluation. The current evaluation (Attachment 7) demonstrates that new limits are necessary to protect water quality; a monthly average of 5.7 mg/L (6.6 mg/L current) and a weekly average of 8.4 mg/L (9.7 mg/L current) are proposed.

2) Total Residual Chlorine:

Chlorine is used for disinfection and is potentially in the discharge. In accordance with current DEQ guidance, staff used a default data point of 0.2 mg/L and the calculated acute WLA to derive limits. No changes are proposed for the chlorine limitations. A monthly average of 0.009 mg/L and a weekly average limit of 0.011 mg/L are proposed for this discharge (Attachment 7).

d) Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to dissolved oxygen (D.O.), biochemical oxygen demand-5 day (BOD_5), Total Suspended Solids (TSS) limitations are proposed. Dissolved Oxygen and BOD_5 limitations are based on the stream modeling conducted in 1979 (Attachment 8) and are set to meet the water quality criteria for D.O. in the receiving stream. The Total Suspended Solids limits are based on the VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133Secondary Treatment.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards 9VAC25-260-170.

e) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the following table. Limits were established for Flow, BOD_5, Total Suspended Solids (TSS), Ammonia as N, pH, Dissolved Oxygen, and Total Residual Chlorine.

The limit for Total Suspended Solids is based on Best Professional Judgment. See Fact Sheet Section 27 for a historical discussion on the TSS limits in this permit.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/l), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD and TSS (or 65% for equivalent to secondary). The limits in this permit are water-quality-based effluent limits and result in greater than 85% removal. Since the facility has lagoons, it is staff's best professional judgment that influent BOD and TSS monitoring be performed annually to demonstrate that the 85% removal has been achieved.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements:

Design flow is 0.086 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	Continuous	TIRE
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
BOD_5	3,5	20 mg/L 6.5 kg/day	30 mg/L 9.8 kg/day	NA	NA	1/W	4H-C
Total Suspended Solids (TSS)	1	30 mg/L 9.8 kg/day	45 mg/L 15 kg/day	NA	NA	1/W	4H-C
Dissolved Oxygen	3,5	NA	NA	6.8 mg/L	NA	1/D	Grab
Ammonia, as N (mg/L)	3	5.7 mg/L	8.4 mg/L	NA	NA	1/W	4H-C
E. coli (Geometric Mean)	3	126 n/100mls	NA	NA	NA	1/W	Grab
Total Residual Chlorine (after contact tank)	4	NA	NA	1.0 mg/L	NA	3/D at 4-hr Intervals	Grab
Total Residual Chlorine (after dechlorination)	3	0.009 mg/L	0.011 mg/L	NA	NA	3/D at 4-hr Intervals	Grab
Influent BOD_5 ** (mg/L)	1	NL	NA	NA	NL	1/YR	Grab
Influent TSS ** (mg/L)	1	NL	NA	NA	NL	1/YR	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgment
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. Stream Model- Attachment 8

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
TIRE = Totalizing, indicating and recording equipment.

1/D = Once every day.
1/M = Once every month.
3/D = Three per day at 4 hr intervals.
1/YR = Once every year.

4H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the Monitored 4-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of four (4) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum four (4) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by ≥10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

** At least 85% removal for BOD and TSS shall be attained for this effluent.

20. Other Permit Requirements :

a) Part I.B. of the permit contains additional chlorine monitoring requirements, quantification levels and compliance reporting instructions.

These additional chlorine requirements are necessary per the Sewage Collection and Treatment Regulations at 9VAC25-70 and by the Water Quality Standards at 9VAC25-260-170. A minimum chlorine residual must be maintained at the exit of the chlorine contact tank to assure adequate disinfection. No more that 10% of the monthly test results for TRC at the exit of the chlorine contact tank shall be <1.0 mg/L with any TRC <0.6 mg/L considered a system failure. Monitoring at numerous STPs has concluded that a TRC residual of 1.0 mg/L is an adequate indicator of compliance with the *E. coli* criteria. *E. coli* limits are defined in this section as well as monitoring requirements to take effect should an alternate means of disinfection be used.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions :

a) 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. This facility is a POTW.

b) Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. Within 90 days of the effective date of this permit, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d) CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.

e) Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200 C, and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.

f) Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet a reliability Class of II.

g) Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220 D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

h) Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

i) Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

j) Minimum Stream Flow Requirement. Discharge is to halt when flow in Beaverdam Creek at the Route 790 Bridge becomes equal to or less than 0.086 MGD. Compliance with this requirement shall be met by measuring the flow daily at the Route 790 Bridge, during and at least one day prior to a scheduled discharge. Flow shall be determined by comparing staff gauge measurements made at the downstream head wall of the Route 790 Bridge to the 1992 rating curves developed by the Loudoun County Sanitation Authority (LCSA). This method was proposed by LCSA on June 20, 1991, and approved by DEQ on December 3, 1991. Appropriate rating curves were established by LCSA in 1992 and should be used for determination of a flow rate.

k) Groundwater Monitoring. The previous permit required the permittee to perform semiannual groundwater monitoring on MW1 (background), MW 2, MW 3, MW 4, MW 5, and MW 6. A summary of the data may be found in Attachment 9. For the reissuance of this permit, the monitoring frequency shall remain semiannual. The permittee shall continue the groundwater sampling and reporting of the data obtained in accordance with the groundwater monitoring plan on a semiannual basis. Any changes to the monitoring plan must be submitted to this office and approved prior to their implementation. If monitoring results indicate that any unit has contaminated the ground water, the permittee shall submit a corrective action plan within 60 days of being notified by the regional office. The plan shall set forth the steps to be taken by the permittee to ensure that the contamination source is eliminated or that the contaminant plume is contained on the permittee's property. In addition, based on the extent of contamination, a risk analysis may be required. Once approved, this plan and/or analysis shall be incorporated into the permit by reference and become an enforceable part of this permit.

Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a) Special Conditions:
   1) The Nutrient Enriched Water Reopener has been removed.
   2) The requirement for an Industrial User's Survey/Pretreatment Program was removed based on the results for the 2007 survey and the information supplied as part of the current application.

b) Monitoring and Effluent Limitations:
   1) The rivermile and receiving stream code was revised based on the most recent information from the DEQ Planning Department.
   2) The Total Residual Chlorine monitoring for the effluent was increased from 1/Day to 3/Day in accordance with current agency guidance.
   3) The Ammonia limitations were revised based on the current evaluation of the effluent pH and temperature data, current Water Quality Criteria, and new WLAs.
   4) *E. coli* monitoring was changed from 1/M to 1/W in accordance with the current Water Quality Standards and agency guidance.

24. Variances/Alternate Limits or Conditions:

None

25. Public Notice Information:

First Public Notice Date: 6/29/11 Second Public Notice Date: 7/6/11

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3834, Alison.Thompson@deq.virginia.gov. See Attachment 10 for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by

the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

Beaverdam Creek Recreational Use Impairment– The TMDL was approved by EPA in 2003 (Fecal Coliform Bacteria), and modified in 2006 (revised to reflect change to *E. coli* bacteria). The bacteria TMDL did not specifically include the receiving stream. However, all upstream facilities were considered during TMDL development. The WLA for this facility in terms of fecal coliform bacteria is 2.38E+11 cfu/year and the WLA in terms of *E. coli* bacteria is 1.49E+11 cfu/year.

Goose Creek Aquatic Life Use – TMDL identified sediment as the key stressor affecting the benthic community. TMDL was approved by EPA in 2004. The benthic TMDL did not specifically include the receiving stream. However, all upstream facilities were considered during TMDL development. The WLA for this facility in terms of sediment is 3.9 tons/year.

Goose Creek PCBs in Fish Tissue – The TMDL is due by 2018. Although TMDL Guidance Memo No. 09-2001 recommends that minor municipal VPDES facilities collect 1 wet sample and 1 dry PCB sample during the permit cycle using EPA Method 1668B, the request for PCB monitoring may be waived if it can be reasonably assumed that the facility does not contribute PCBs (for example, if the facility was built after 1976, when PCB production was banned by the federal government in this year, or if the facility can certify that PCBs were never present on the site). The Assessment/Planning staff do not believe that this facility should be required to perform PCB monitoring due to the fact that it serves a small residential community with few possible sources that could contribute PCBs.

TMDL Reopener: This special condition is to allow the permit to reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

27. Additional Comments:

Previous Board Action(s): None.

Staff Comments: None.

Public Comment: DGIF reviewed the discharge information as part of this reissuance. A copy of DGIF's response have been placed in the reissuance file. The indicated that "provided the project adheres to the effluent limitations and monitoring requirements specified in the permit, we do not anticipate the reissuance of this existing permit to result in adverse impact to this designated T&E waters or its associated species."

EPA Checklist: The checklist can be found in Attachment 11.

Historical TSS information: The following information was pulled from the 2001 permit reissuance Fact Sheet.

> This facility is located in one of the designated Blue Ridge Eastern Slope Counties (Loudoun). Previous permit limitations for the parameter Total Suspended Solids, had originally been based on the Department's alternative requirements for sewage lagoons established under authority of 40 CFR 133.105 (d). During the 1996 permit reissuance the limitations were re-evaluated to determine if the limits were appropriate or if more stringent limits could be met, as required by 40 CFR 133.105(f).
>
> Lack of sufficient data resulted in the assumption that the facility was not able to meet a 45 mg/l monthly average and a 65 mg/l 7-day average on a consistent basis. Therefore, the TSS limitations remained as 78 mg/L monthly average and 117 mg/L weekly average.
>
> Current staff guidance states that the alternative effluent limits are not applicable to aerated lagoon discharges and that the limitations should be based on the Secondary Effluent Guidelines found in 40 CFR Part 133.102. Therefore, the limitations will be changed to a 30 mg/L- monthly average and a 45 mg/L - weekly average maximum. As part of this permit reissuance, effluent data from the period August 1996 through May 2001, was summarized and is presented in Attachment 12 [of the 2001 Fact Sheet, but is not included in this historical discussion]. As is demonstrated by the data, all the values are below the new limitations, and the facility should not have any problem to achieve compliance with the new limits. But since the new limits are more stringent, staff recommends a two years schedule of compliance with this reissuance. During the interim period, the existing permit limits will remain in effect.

Attachments to the VA0062189 Fact Sheet

Attachment 1	Flow Frequency Determination
Attachment 2	Facility Schematic
Attachment 3	Topographic Map
Attachment 4	Site Inspection
Attachment 5	Water Quality Criteria and Wasteload Allocation Determinations
Attachment 6	Effluent Data
Attachment 7	Limit Evaluations
Attachment 8	Dissolved Oxygen Model
Attachment 9	Groundwater Data
Attachment 10	Public Notice
Attachment 11	EPA Checklist

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination
St. Louis STP - #VA0062189

TO: Golnaz Walker, NRO

FROM: Paul E. Herman, P.E., WQAP

DATE: December 14, 2000

COPIES: Ron Gregory, Charles Martin, File

This memo supersedes my April 9, 1996, memo to James Engbert concerning the subject VPDES permit.

The St. Louis STP discharges to an unnamed tributary of Beaverdam Creek near St. Louis, VA. Stream flow frequencies are required at this site by the permit writer for the purpose of calculating effluent limitations for the VPDES permit.

At the discharge point, the receiving is depicted as intermittent on the USGS Bluemont Quadrangle topographic map. The flow frequencies for intermittent streams are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean. Flow frequencies have been determined for the first perennial reach downstream of the discharge point.

The USGS conducted several flow measurements on the Goose Creek during the 1960's. The measurements were made at the U.S. Highway 15 bridge near Oatlands, VA. The measurements made by the USGS correlated very well with the same day daily mean values from the continuous record gage on the Catoctin Creek at Taylorstown, VA #01638480. The measurements and daily mean values were plotted on a logarithmic graph and a best fit line was drawn through the data points. The required flow frequencies from the reference gage were plugged into the equation for the regression line and the associated flow frequencies at the measurement site were calculated.

The flow frequencies at the discharge point were determined by using the values at the measurement site and adjusting them by proportional drainage areas. The data for the reference gage, the measurement site and the discharge point are presented below:

Catoctin Creek at Taylorstown, VA (#01638480):

Drainage Area = 89.6 mi^2

1Q10 = 0.81 cfs	High Flow 1Q10 = 6.42 cfs
7Q10 = 1.02 cfs	High Flow 7Q10 = 8.59 cfs
30Q5 = 3.39 cfs	HM = 10.9 cfs

Annual Average = 102 cfs

Goose Creek at Oatlands, VA (#01643950):

Drainage Area = 276 mi^2

1Q10 = 3.37 cfs	High Flow 1Q10 = 21.2 cfs
7Q10 = 4.14 cfs	High Flow 7Q10 = 27.5 cfs
30Q5 = 12.0 cfs	HM = 34.0 cfs

Annual Average = 247 cfs

Attachment 1

Unnamed Tributary at beginning of perennial reach:

Drainage Area = 0.59 mi^2

1Q10 = 0.007 cfs (0.005 mgd) High Flow 1Q10 = 0.045 cfs (0.029 mgd)
7Q10 = 0.009 cfs (0.006 mgd) High Flow 7Q10 = 0.059 cfs (0.038 mgd)
30Q5 = 0.026 cfs (0.017 mgd) HM = 0.073 cfs (0.047 mgd)
Annual Average = 0.528 cfs (0.341 mgd)

The high flow months are December through May. This analysis assumes there are no significant discharges, withdrawals or springs influencing the flow in the unnamed tributary upstream of the discharge point.

If there are any questions concerning this analysis, please let me know.

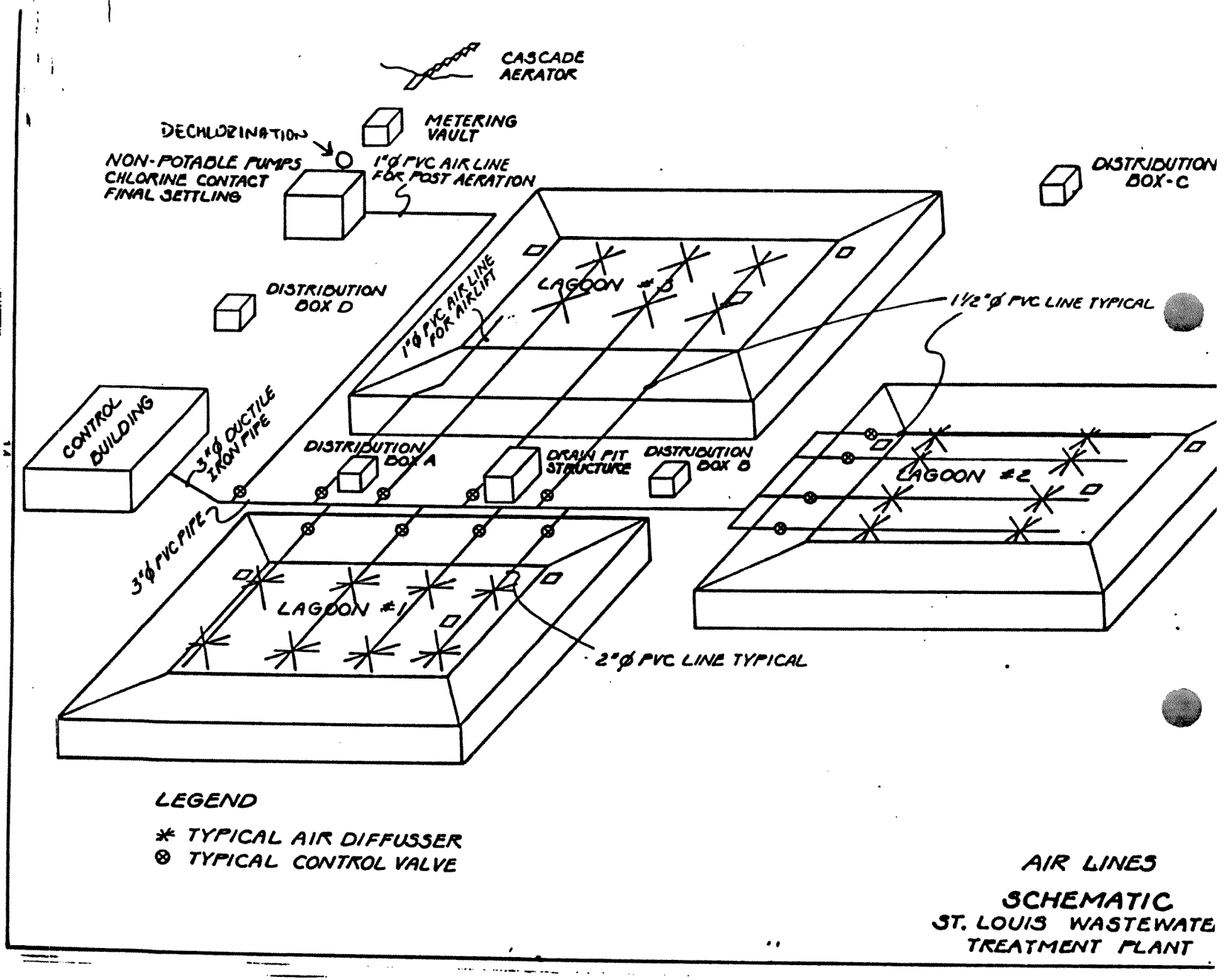
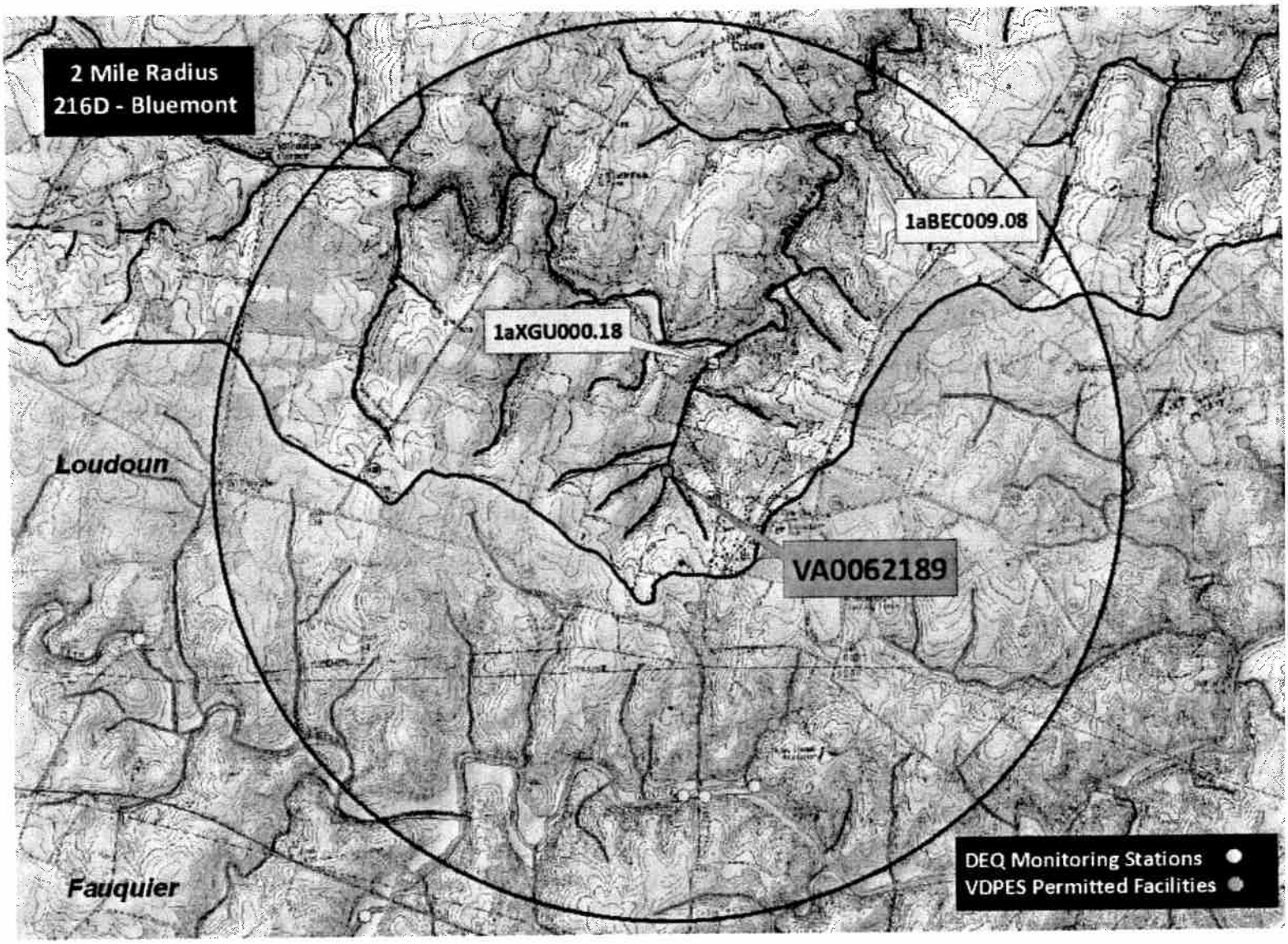
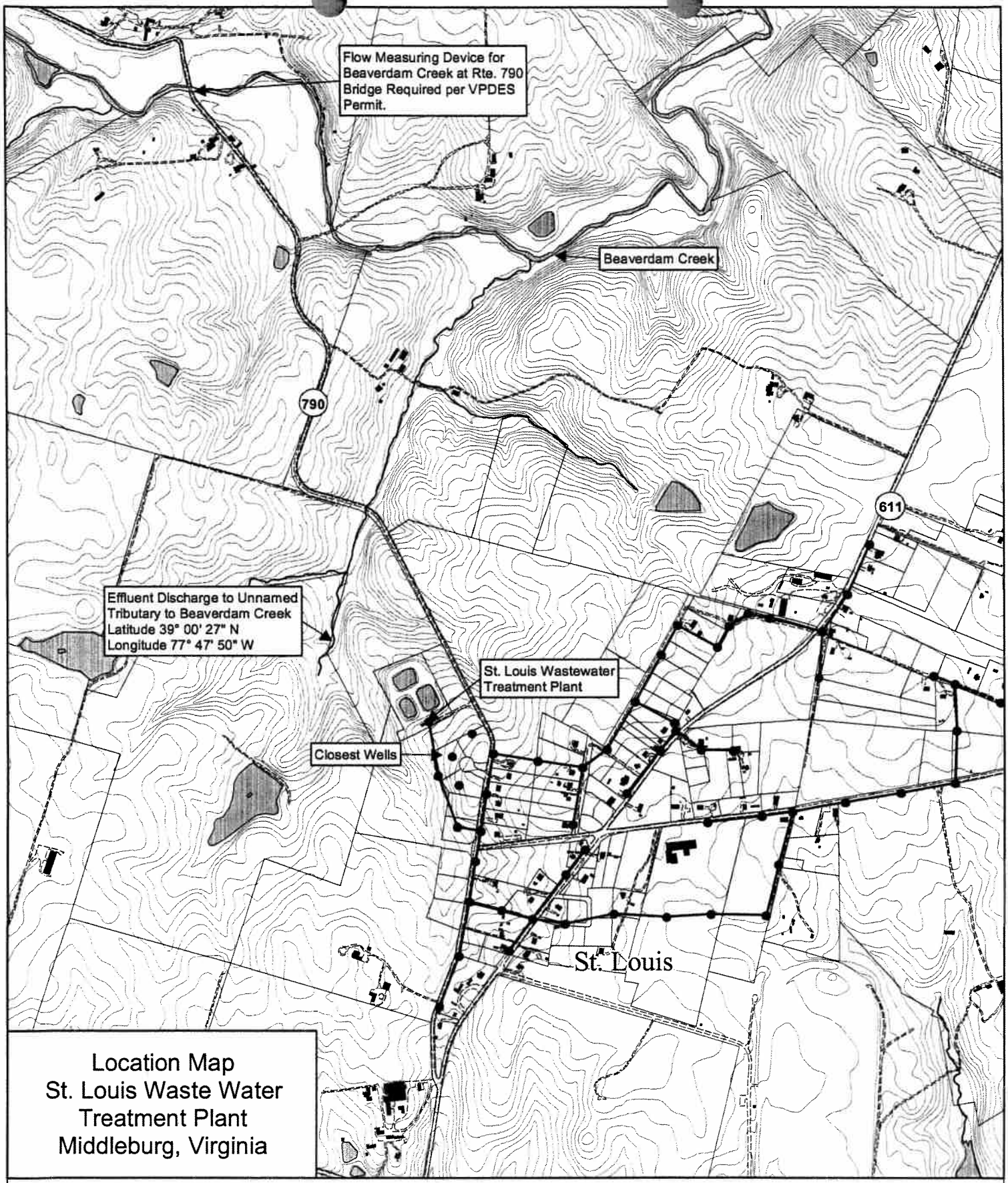


Figure 1 - Facility Diagram
Source - 1981 Operations and Maintenance Manual

Attachment 2



Attachment 3



Location Map
St. Louis Waste Water Treatment Plant
Middleburg, Virginia

N
W E
S

SCALE: 1:10,800

0.5 0.25 0 0.5 Miles

1,000 500 0 1,000 2,000 Feet

0.5 0.25 0 0.5 Kilometers

Created February 7, 2005

LCSA
LOUDOUN COUNTY SANITATION AUTHORITY

Attachment 3

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Douglas Domenech
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

June 22, 2011

Mr. Bruce Ringrose
Manager of Community Systems
Loudoun Water
P.O. Box 4000
Ashburn, VA 20146

Re: **St. Louis Community WWTP, Permit #VA0062189**

Dear Mr. Ringrose:

Attached is a copy of the Site Inspection Report generated from the Facility Compliance Inspection conducted at St. Louis Community – Wastewater Treatment Plant (WWTP) on June 1, 2011. This letter is not intended as a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* (APA).

Please review the enclosed report and submit in writing adequate documentation of all measures taken (including all necessary supporting documentation) to address the Request for Corrective Action no later than July 22, 2011.

Your response may be sent either via the US Postal Service or electronically, via E-mail. If you choose to send your response electronically, we recommend sending it as an Acrobat PDF or in a Word-compatible, write-protected format. Additional inspections may be conducted to confirm that the facility is in compliance with permit requirements.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Regional Office at (703) 583-3882 or by E-mail at Sharon.Allen@deq.virginia.gov.

Sincerely,

Sharon Allen

Sharon Allen
Environmental Specialist II

cc: Permits / DMR File

Electronic copy sent:
Compliance Manager, Compliance Auditor – DEQ
Les Morefield- Loudoun Water

Virginia Department of Environmental Quality

RECON INSPECTION REPORT

FACILITY NAME: St. Louis Community WWTP		**INSPECTION DATE:** June 1, 2011	
		INSPECTOR S. Allen	
PERMIT No.: VA0062189		**REPORT DATE:** June 21, 2011	
TYPE OF FACILITY: ☑ Municipal ☐ Major ☐ Industrial ☑ Minor ☐ Federal ☐ Small Minor ☐ HP ☐ LP		**TIME OF INSPECTION:**	Arrival 0950 / Departure 1125
		TOTAL TIME SPENT (including prep & travel)	10 Hours
PHOTOGRAPHS: ☑ Yes ☐ No		**UNANNOUNCED INSPECTION?** ☑ Yes ☐ No	
REVIEWED BY / Date: 6/21/11			
PRESENT DURING INSPECTION: Allen Clemons, Charlie Triplett- Loudoun Water			

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

- Weather- hot and sunny.
- I met Mr. Clemons on site and toured the facility.
- The treatment process consists of three aerated lagoons followed by clarification, chlorination, dechlorination, and post aeration.
- The air to the lagoons was not on during this visit. Mr. Clemons said the one blower on site had stopped over the weekend. Operators had not been able to get it to start, and installed a 2nd blower on May 30th. The new blower was working, but air was not being delivered to lagoons. He and Mr. Triplett planned on working on it further later in the day.
- Mr. Clemens also mentioned that they have had an air leak in the pipe from the blower to the lagoons (outside the building) for some time, and they would also try to fix that day.
- Mr. Clemens said the heavy rains this spring have kept the lagoons full, and they have discharged almost every week. He stated that the water level had been up to the grass line; regular discharging has brought the levels down a couple feet.
- All three lagoons were covered with duckweed. We walked around lagoons- no problems noted with structural integrity.
- The grass was mowed and grounds maintained. Mr. Clemens stated that the grass mowing is contracted out; mowers are supposed to be there every two weeks, but he doesn't think they come that often.

Permit #	VA0062189

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

- Lagoons discharge to a vault (distribution box D). Operators currently use two submersible pumps operated manually to discharge to the two chlorine tablet feeders, each followed by a chlorine contact tank. These pumps and lines are pulled out of the vault when not running to assure no unintended discharge. Mr. Clemens told me they plan to replace these submersible pumps with one.

- Both clarifiers were covered with duckweed. Mr. Clemens said they skim the clarifiers manually, and material is hauled to Middleburg WWTP for disposal.

- Both sides of chlorination were in service.

- The facility needs new tablet tubes for the dechlorination table feeder. The ones they have are in bad shape. Operators tried to replace with PVC piping, but this is not working well.

- The final effluent flow meter was calibrated on 5-17-11. Flow reading was 0.0548 x 1000 at the time of inspection.

- We checked Outfall 001. Mr. Clemens said the gage that is supposed to be located downstream had been washed away and had not replaced yet. Mr. Morefield had told him there was one a Waterford, but he couldn't find it. They will install a new gage soon.

- Six groundwater monitoring wells are installed around the facility. Mr. Clemens collects the semi-annual samples.

- I watched Mr. Clemens run the second set of daily Total Residual Chlorine (TRC) analyses on grab samples he collected from the two chlorine contact tanks and the final effluent. Both samples from the chlorine contact tanks read > 4.0 mg/L, and the final effluent sample read 0.01 mg/L.

- We discussed a recent pump failure at the pump station. Wastewater was pumped and hauled to Middleburg while pump repair was underway. The station is now being re-furbished; new pumps, cabinets, and alarm will be installed. Operators intend to build an enclosure over top once all work is completed.

Permit #	VA0062189

EFFLUENT FIELD DATA:

	MGD	**Dissolved Oxygen**	mg/L	**TRC (Contact Tank)**	>4.0 mg/L
pH	S.U.	**Temperature**	°C	**TRC (Final Effluent)**	<QL mg/L

Was a Sampling Inspection conducted? ☐ Yes (see Sampling Inspection Report) ☐ No

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall: ☐ Shore based ☑ Submerged Diffuser? ☐ Yes ☑ No
2. Are the outfall and supporting structures in good condition? ☑ Yes ☐ No
3. Final Effluent (evidence of following problems): ☐ Sludge bar ☐ Grease ☐ Turbid effluent ☐ Visible foam ☐ Unusual color ☐ Oil sheen
4. Is there a visible effluent plume in the receiving stream? ☐ Yes ☑ No
5. Receiving stream: ☑ No observed problems ☐ Indication of problems (explain below)

Comments:

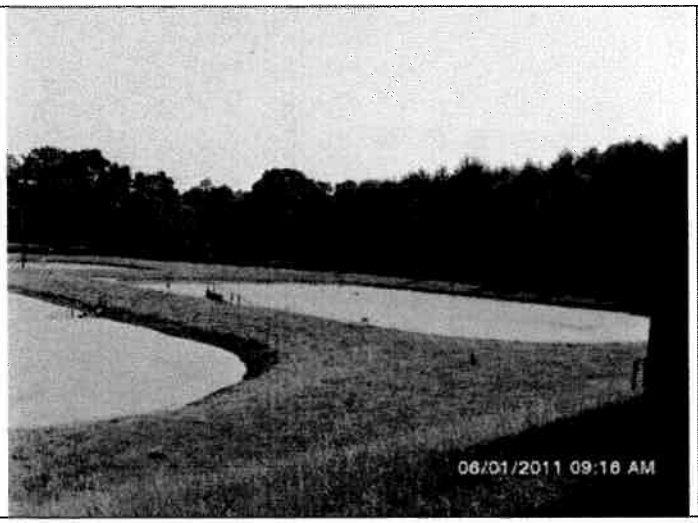
The plant was discharging and compliance samples were being collected.

REQUEST for CORRECTIVE ACTION:

1. Replace tablet tubes in the dechlorination tablet feeder.
2. Replace the flow monitoring gage at the Rt. 790 Bridge. Not having this gage in place to judge stream flow is a violation of a permit condition.

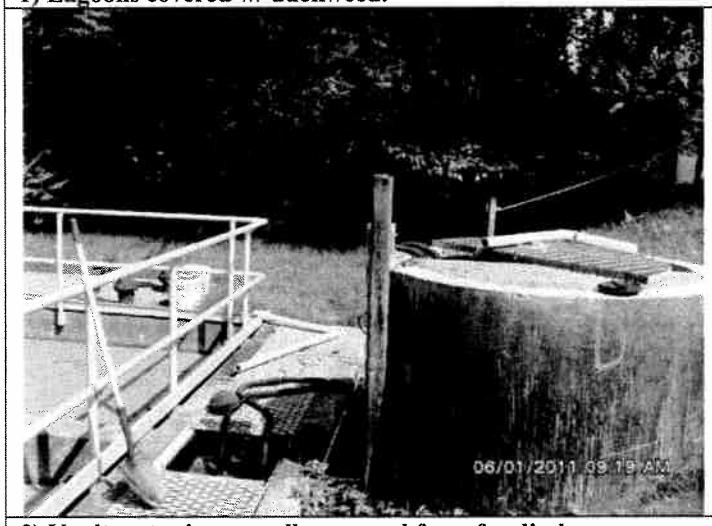
NOTES and COMMENTS:

- The wooden stairs from the control building to the lagoons are unsafe to use and should be replaced to allow safe access to the lagoons, especially in wet, snowy, or icy conditions.
- All three lagoons have steps and a dock like structure- all are in poor shape and should be removed or replaced; at least marked with signs that they are unsafe.
- I emailed Les Morefield on June 16, 2011, who informed me that a brand new blower will be installed during the week of June 20, 2011 so there will be two operational blowers in place at St. Louis Community WWTP. The leak in the air line will also be repaired at that time.
- Mr. Morefield informed me on June 21, 2011, via e-mail that the blower has been replaced and the leak in the air line has been repaired.



1) Lagoons covered w/ duckweed.

2) Over view of lower part of plant.

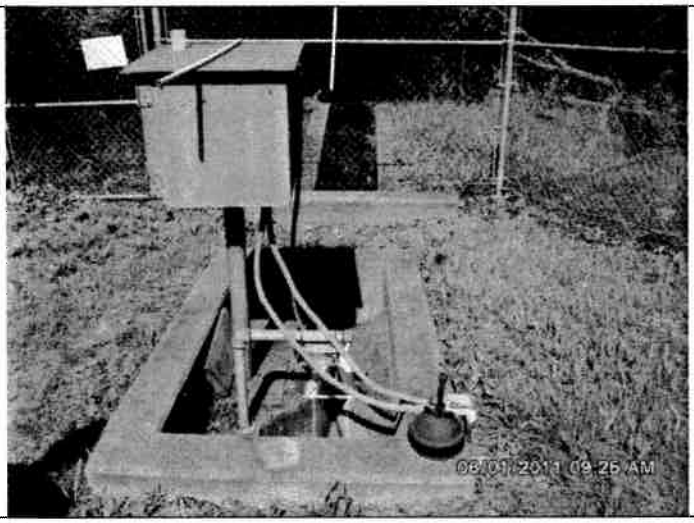


3) Vault water is manually pumped from for discharge.

4) Clarifier weirs and chlorine tablet feeder.

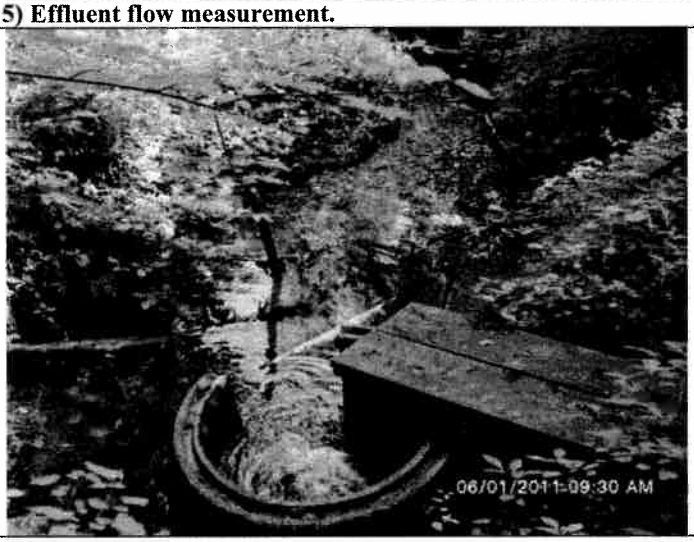
Facility name: St. Louis Community WWTP
Site Inspection Date: June 1, 2011

VPDES Permit No. VA0062189
Photos & Layout by: S. Allen



5) Effluent flow measurement.

6) Step aeration.



7) Outfall 001.

8) Receiving stream- upstream.

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: St Louis WWTP Permit No.: VA0062189

Receiving Stream: Beaverdam Creek, UT Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0 MGD
7Q10 (Annual) =	0 MGD
30Q10 (Annual) =	0 MGD
1Q10 (Wet season) =	0 MGD
30Q10 (Wet season)	0 MGD
30Q5 =	0 MGD
Harmonic Mean =	0 MGD

Mixing Information

Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	100 %
- 30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	100 %
- 30Q10 Mix =	100 %

Effluent Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temp (Annual) =	25.6 deg C
90% Temp (Wet season) =	15 deg C
90% Maximum pH =	8 SU
10% Maximum pH =	SU
Discharge Flow =	0.086 MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.19E+00	na	--	8.4E+00	1.2E+00	na	--	--	--	--	--	--	--	--	--	8.4E+00	1.2E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.36E+00	na	--	8.4E+00	2.4E+00	na	--	--	--	--	--	--	--	--	--	8.4E+00	2.4E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether[C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate[C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Attachment 5

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene[C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD[C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE[C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT[C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene[C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane[C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane[C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene[C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin[C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene[C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene [C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene [C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane [C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone [C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	4.9E+01	5.6E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.0E+02	1.1E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine [C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine [C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine [C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total [C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	**1.0E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**6.5E+01**	**6.6E+01**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - **1**), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium **III**	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

VA0062189 St Louis Effluent Data

Date	Flow (MGD)	pH (s.u.)	Temp (deg C)
5/21/2007	0.053	7.9	17.1
5/22/2007	0.105	7.2	16.7
5/23/2007	0.076	7.7	19.5
5/24/2007	0.032	8.3	20.1
6/18/2007	0.099	7.7	22.2
6/19/2007	0.108	8.1	23.2
6/20/2007	0.049	8	24.2
6/21/2007	0.055	7.9	23.3
10/9/2007	0.107	7.7	18.2
10/10/2007	0.116	7.9	21.1
10/11/2007	0.087	7.8	19.4
10/12/2007	0.034	7.7	17.8
12/15/2008	0.0649	7.2	4.2
12/16/2008	0.0649	7.9	5.1
12/17/2008	0.0476	8.2	4.8
7/14/2008	0.0743	7.7	27.5
7/15/2008	0.0724	8	27.1
7/16/2008	0.0857	7.9	27
7/17/2008	0.0408	8	27.3
7/21/2008	0.0806	7.8	26
7/22/2008	0.0681	8.1	28.8
7/23/2008	0.0703	8.1	28.6
7/24/2008	0.0301	8.1	27.3
7/28/2008	0.0816	7.8	25
7/29/2008	0.0802	7.9	27.3
7/30/2008	0.0799	7.8	27.3
7/31/2008	0.0322	7.7	7.7
5/5/2009	0.0598	7.7	16
5/6/2009	0.0542	8.1	17
5/7/2009	0.0512	7.7	17.7
5/8/2009	0.0313	7.7	17.9
5/19/2009	0.0671	7.8	17.2
5/20/2009	0.0648	7.8	19.2
5/21/2009	0.0716	7.9	19.7
5/22/2009	0.0239	7.9	19.4
6/1/2009	0.0478	7.6	19
6/2/2009	0.0574	7.8	22.1
6/3/2009	0.0923	7.9	23
6/4/2009	0.0275	7.6	22.9
6/8/2009	0.0793	7.3	20.1
6/9/2009	0.0653	7.8	23.4
6/10/2009	0.0633	7.6	23.2
6/11/2009	0.0181	7.6	23.3
6/15/2009	0.144	7.4	22
6/16/2009	0.143	7.4	24.6
6/17/2009	0.0193	7.4	25.1
6/18/2009	0.0086	7.3	24.9
7/14/2009	0.0482	7.8	20.5
7/15/2009	0.0476	7.6	24.7
7/16/2009	0.0131	8	25.4
7/21/2009	0.0527	7.5	22.2
7/22/2009	0.0499	8	24.8
7/23/2009	0.0492	7.9	24.5
7/24/2009	0.0136	8.1	25.1
7/27/2009	0.0535	8	24.7
7/28/2009	0.0647	7.9	25.5
7/29/2009	0.058	7.3	25.6
7/30/2009	0.0177	7.3	24.6
1/19/2010	0.0843	6.9	1.3
1/20/2010	0.0855	6.9	1.5
1/21/2010	0.0838	7.2	2.3
1/22/2010	0.0313	7.6	3.2
2/1/2010	0.0875	7.1	3.6
2/2/2010	0.0776	7.4	1.8
2/3/2010	0.074	7	1.7
2/4/2010	0.0304	7.6	1.8

January 2007 - No Flow
February 2007 - No Flow
March 2007 - No Flc
April 2007 - No Flow
July 2007 - No Flow
August 2007 - No Flow
September 2007 - No Flow
November 2007 - No Flow
December 2007 - No Flow

January 2008 - No Flow
February 2008 - No Flow
March 2008 - No Flc
April 2008 - No Flow
May 2008 - No Flow
June 2008 - No Flow
August 2008 - No Flow
September 2008 - No Flow
October 2008 - No Flow
November 2008 - No Flow

January 2009 - No Flow
February 2009 - No Flow
March 2009 - No Flc
April 2009 - No Flow
August 2009 - No Flow
September 2009 - No Flow
October 2009 - No Flow
November 2009 - No Flow
December 2009 - No Flow

June 2010 - No Flow
July 2010 - No Flow
August 2010 - No Flow
September 2010 - No Flow
November 2010 - No Flow
December 2010 - No Flow

90th percentile pH	8.0
90th percentile temp	25.6
Average Flow	0.06197
Maximum Flow	0.144

2/22/2010	0.0818	7.1	2.2
2/23/2010	0.0695	7.1	2.6
2/24/2010	0.0893	7.2	3.2
2/25/2010	0.0401	7.1	3.8
3/8/2010	0.0834	7.6	6.4
3/9/2010	0.0743	7.3	7.1
3/10/2010	0.0867	7.7	7.9
3/11/2010	0.0372	7.6	9.2
3/16/2010	0.0785	7.7	9.9
3/17/2010	0.087	7.9	10.2
3/18/2010	0.085	7.9	10.8
3/19/2010	0.0332	7.8	11.3
3/23/2010	0.0446	8.1	13.2
3/24/2010	0.1041	8	12.3
3/25/2010	0.0732	8	13.5
3/26/2010	0.0447	7.8	13.1
3/29/2010	0.0693	7.4	10.8
3/30/2010	0.0931	7.5	12.2
3/31/2010	0.0693	7.6	12.2
4/1/2010	0.0228	7.3	12.8
4/12/2010	0.0603	7.3	12.9
4/13/2010	0.0598	7.7	18.3
4/14/2010	0.0804	7.7	17.2
4/15/2010	0.0266	7.6	17.1
5/10/2010	0.0589	7.1	14.4
5/11/2010	0.0446	7.6	18
5/12/2010	0.0495	7.6	17.8
5/13/2010	0.0118	7.6	18
10/12/2010	0.0573	7.1	15.1
10/13/2010	0.0692	7	16.5
10/14/2010	0.0675	7.1	16.5
10/15/2010	0.0255	7.1	15.8
10/18/2010	0.0703	7	14.3
10/19/2010	0.0694	7	14.5
10/20/2010	0.068	6.9	14.2
10/21/2010	0.0281	7.3	14

Facility = St. Louis STP
Chemical = TRC
Chronic averaging period = 4
WLAa = 0.019
WLAc =
Q.L. = 0.1
# samples/mo. = 30
# samples/wk. = 8

Summary of Statistics:

observations = 1
Expected Value = .2
Variance = .0144
C.V. = 0.6
97th percentile daily values = .486683
97th percentile 4 day average = .332758
97th percentile 30 day average= .241210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 0.019
Average Weekly limit = 1.13335966321422E-02
Average Monthly LImit = 9.4168021134859E-03

The data are:

0.2

4/6/2011 6:16:13 AM

Facility = St Louis WWTP
Chemical = Ammonia as N
Chronic averaging period = 30
WLAa = 8.4
WLAc =
Q.L. = .2
# samples/mo. = 4
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 8.4
Average Weekly limit = 8.4
Average Monthly LImit = 5.74329606361809

The data are:

9

MEMORANDUM

State Water Control Board

2111 North Hamilton Street | P. O. Box 11143 | Richmond, VA. 23230

SUBJECT: Loudoun County - St. Louis C-510521

TO: Dale Phillips - BWCM

FROM: Gary N. Moore

DATE: August 7,1979

COPIES: Sam Waldo-(BAT), Elaine Mozer-Construction Grants, Neil Peterman(NRO)

The following effluent limits apply to the St. Louis STP if the additional 30-day holding time at design flow is maintained and no effluent is discharged when the flow in Beaverdam Creek falls below 0.086 mgd:

Flow	0.086 mgd
BOD_5+ SS	20mg/l
D.O.	6.8 mg/l
TKN	9 mg/l

I believe that no useful purpose will be served by imposing a TKN limit on this facility, in as much as the manufacturer states that the plant will achieve a TKN of 2.2 mg/l in the summer and 5.8 mg/l in the winter.

I would appreciate anything you could do to expedite the processing of this Step III grant through EPA. I believe the facility should be built as designed and approved by the State Department of Health and the Water Control Board.

sl

Attachment 8

NRO

MEMORANDUM

State Water Control Board

2111 North Hamilton Street | P. O. Box 11143 | Richmond, VA. 23230

SUBJECT: Loudoun County - St. Louis STP C-510521

TO: ~~Dale Phillips~~ - BWCM

FROM: Gary Moore - NRO

DATE: August 14, 1979

COPIES: Sam Waldo - BAT, Elaine Mozur - Const. Grants, Neil Peterman - NRO

After adjusting stream velocities & segment lengths, I have established the following effluent limits for St. Louis:

Flow 0.086 MGD	These limits meet anti-degradation "standards" in Beaverdam Creek.
BOD_5 + SS 20 mg/l	
TKN 5.0 mg/l	
D.O. 6.8 mg/l.	

The following data was input for the Streeter-Phelps (with NOD) model:

Segment 1 (Receiving Stream): Length = 0.5 mi
Velocity = 1 fps
7/10 Flow = 0.0043 mgd

Segment 2 (Beaverdam Creek to Dog Branch) Length = 2.2 mi
Velocity = 1 fps
Flow = 0.086 mgd

Segment 3: (Beaverdam Creek from Segment 2 to confluence with North Fork)
Length = 7 mi.
Velocity = 0.5 fps

PAGE 2

DALE Phillips - BWRM

STREAM TEMP 30°C

STREAM D.O. = 6.8 mg/l

$K_1 = .18$

$K_N = .1$

$K_2 = 5.0$

BACKGROUND STREAM BOD_5 = 2 mg/l

" " NOD_4 = 2 mg/l

CRITICAL DISCHARGE = 0.007 cfs/sq.mi

The same EFFLUENT STANDARDS ARE REQUIRED IF STREAM Velocities OF 0.5 fps ARE USED FOR SEGMENTS 1 & 2 AND 0.25 fps for SEGMENT 3.

LOUDOUN COUNTY - St. Louis (Drainage Areas) S.A.A.

Beaverdam Creek Watershed above receiving stream	10.506 sq. mi. 0.0475 MGD
Unnamed tributary of Beaverdam Creek (receiving stream)	0.953 sq. mi. 0.004295 MGD
Beaverdam Creek Watershed below unnamed tributary to Dog Branch	2.396 sq. mi. 0.0167 CFS 0.0108 MGD
Dog Branch Watershed	6.916 sq. mi. 0.0484 CFS 0.0312 MGD
Beaverdam Creek Watershed below Dog Branch to North Fork	1.264 sq. mi. 0.0057 MGD
North Fork Watershed	EST. 0.068 MGD
Potomac River, Section 9, Class III B 10 year/7 day drought flow	0.007 CFS/sq. mi.
(Goose Creek near Leesburg)	1CFS=0.646 MGD

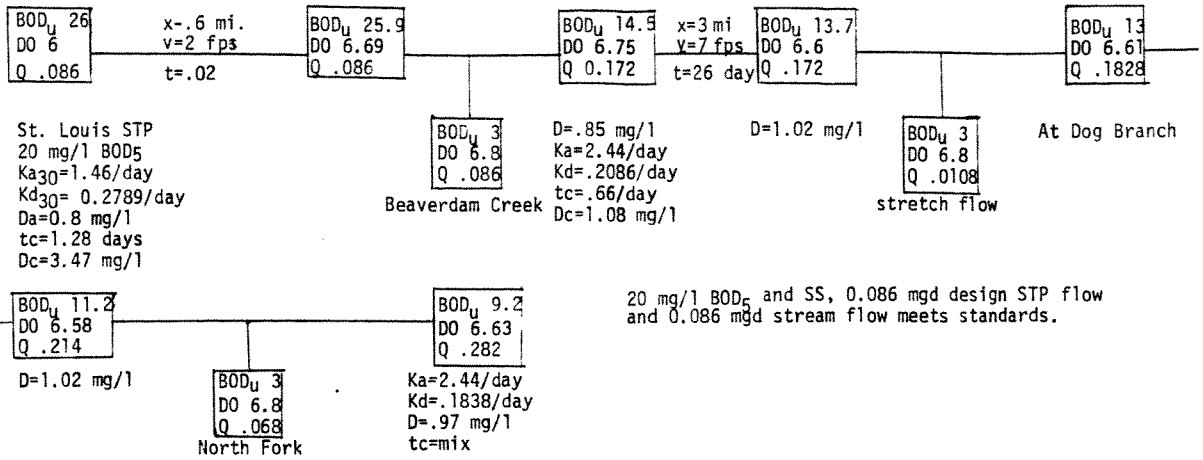
SUBJECT: Louis STP - LOUDOUN COUNTY

TO: File

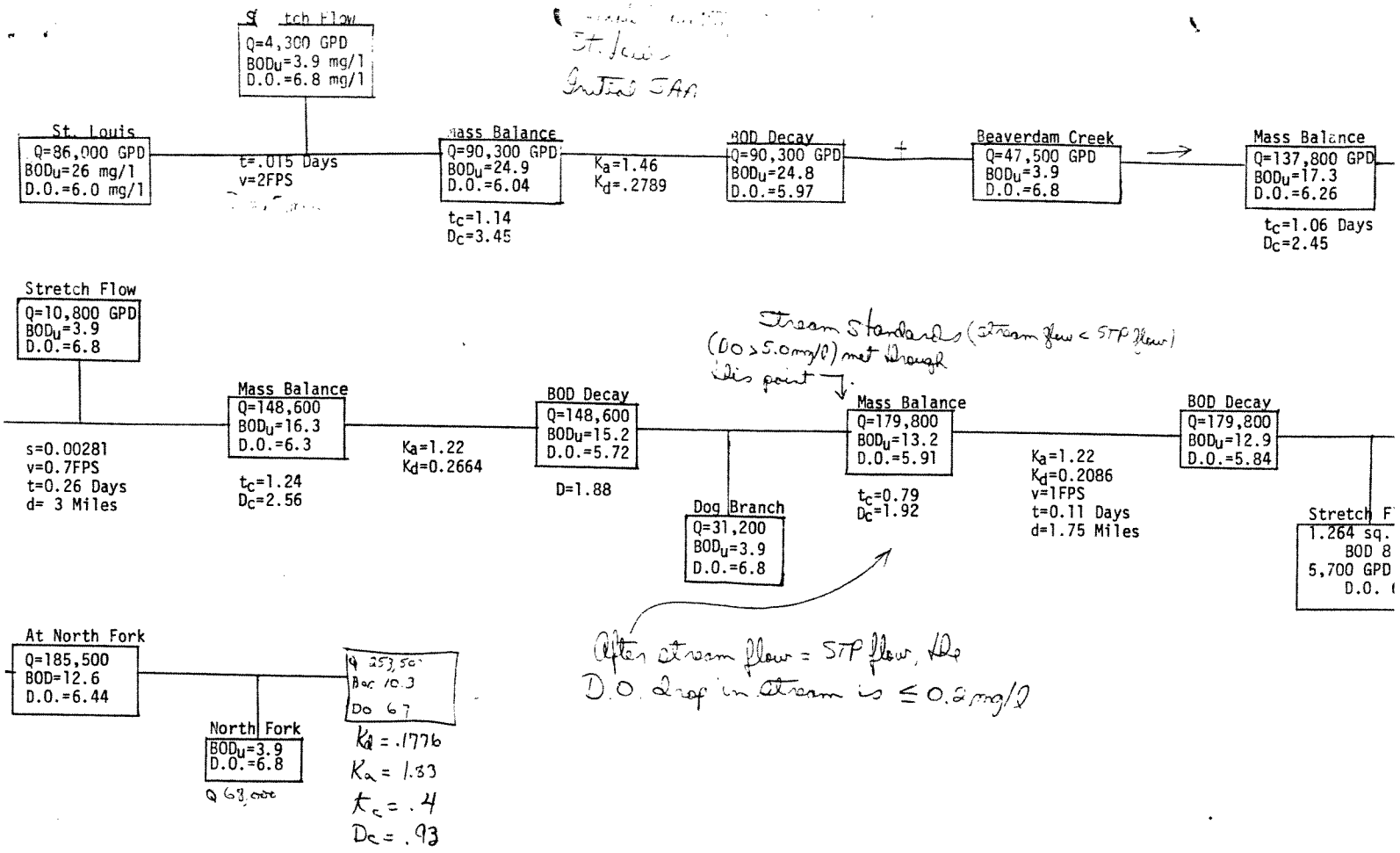
FROM: Gary N. Moore

DATE: October 20, 1978

Stream flow=design flow of STP(0.086 mgd)
Calculations from 11/16/78



20 mg/l BOD$_5$ and SS, 0.086 mgd design STP flow and 0.086 mgd stream flow meets standards.


St. Louis
Q=86,000 GPD
BOD$_u$=26 mg/l
D.O.=6.0 mg/l
t=.015 Days
v=2FPS
Mass Balance
Q=90,300 GPD
BOD$_u$=24.9
D.O.=6.04
t_c=1.14
D_c=3.45
K_a=1.46
K_d=.2789
BOD Decay
Q=90,300 GPD
BOD$_u$=24.8
D.O.=5.97
Beaverdam Creek
Q=47,500 GPD
BOD$_u$=3.9
D.O.=6.8
Mass Balance
Q=137,800 GPD
BOD$_u$=17.3
D.O.=6.26
t_c=1.06 Days
D_c=2.45
Stretch Flow
Q=10,800 GPD
BOD$_u$=3.9
D.O.=6.8
s=0.00281
v=0.7FPS
t=0.26 Days
d= 3 Miles
Mass Balance
Q=148,600
BOD$_u$=16.3
D.O.=6.3
t_c=1.24
D_c=2.56
K_a=1.22
K_d=0.2664
BOD Decay
Q=148,600
BOD$_u$=15.2
D.O.=5.72
D=1.88
Dog Branch
Q=31,200
BOD$_u$=3.9
D.O.=6.8
Mass Balance
Q=179,800
BOD$_u$=13.2
D.O.=5.91
t_c=0.79
D_c=1.92
K_a=1.22
K_d=0.2086
v=1FPS
t=0.11 Days
d=1.75 Miles
BOD Decay
Q=179,800
BOD$_u$=12.9
D.O.=5.84
Stretch F
1.264 sq.
BOD 8
5,700 GPD
D.O.
At North Fork
Q=185,500
BOD=12.6
D.O.=6.44
North Fork
BOD$_u$=3.9
D.O.=6.8
Q 63,000
Q 253,50
Bod 10.3
Do 6.7
K_d = .1776
K_a = 1.33
t_c = .4
D_c = .93
St. Louis
Stream Standards (stream flow < STP flow)
(DO > 5.0 mg/l) met through
this point
After stream flow = STP flow, the
D.O. drop in stream is ≤ 0.2 mg/l

Lowndes County - ST. LOUIS (DRAINAGE AREAS) S.A.A.

~~Sect 7, III B~~

BEAVERDAM CREEK WATERSHED ABOVE RECEIVING STREAM 10.306 sq

at .009 cfs/sq mi = .06097

UNNAMED TRIBUTARY OF BEAVERDAM CREEK (RECEIVING STREAM)

WATERSHED 0.953 sq

BEAVERDAM CREEK WATERSHED BELOW UNNAMED TRIBUTARY

Flow from UNNAMED TRIB to 2 mi Down from Above → TO DOG BRANCH 2.396 sq

.56 × .018 = .006 mgd → .0048 to Dog Br.

DOG BRANCH WATERSHED 6.916 sq

BEAVERDAM CREEK WATERSHED BELOW DOG BRANCH TO NORTH FORK 1.226 sq

NORTH FORK WATERSHED

Potomac River, Section 7, Area III B ~~0.009~~

10 YEAR / 7 DAY EFFLUENT FLOW - 0.007 CFS/sq MI

(Coca Creek near Leesburg) 1 CFS = 0.646 MGD

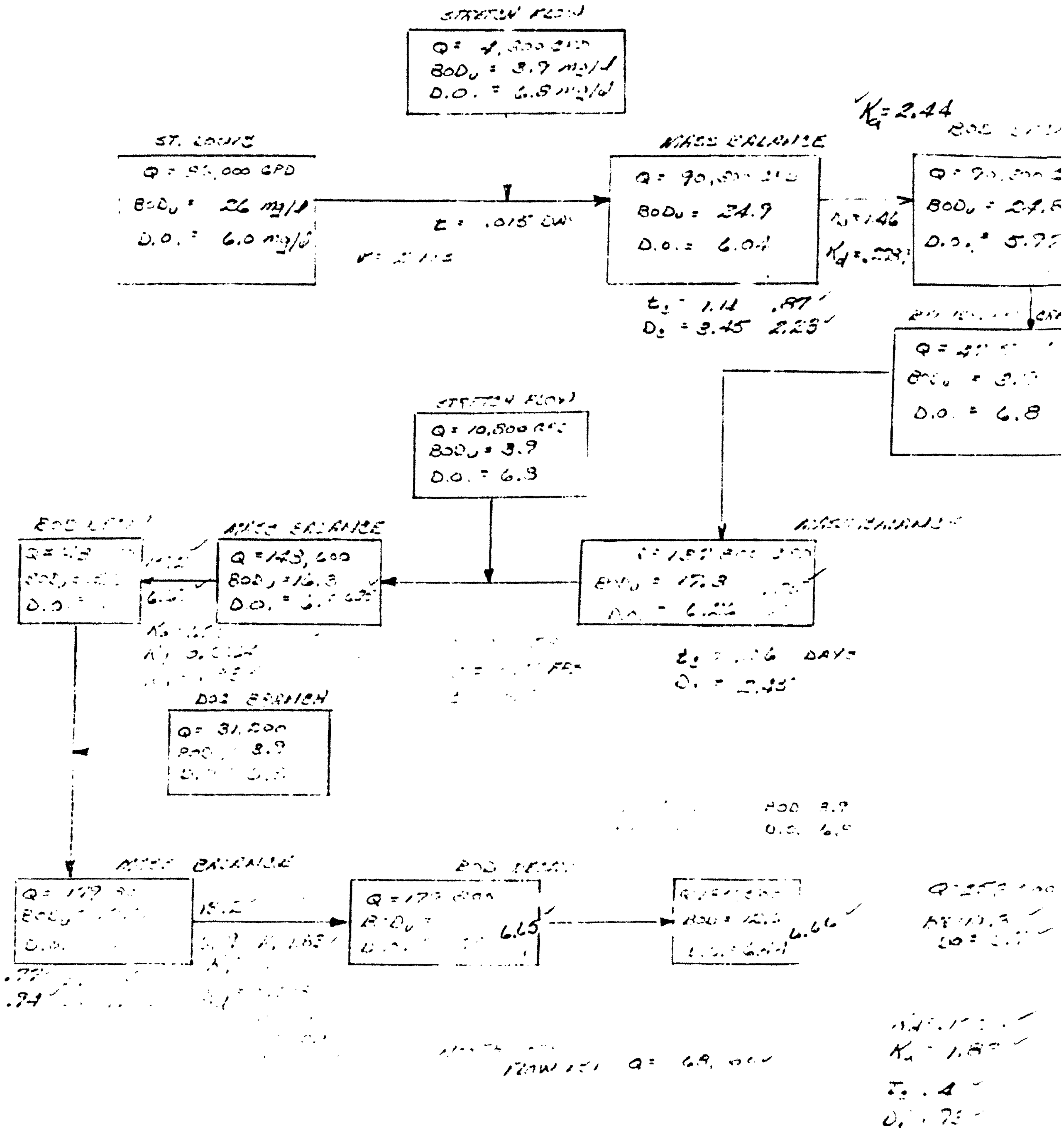
.6 2/1 3.1

.0108

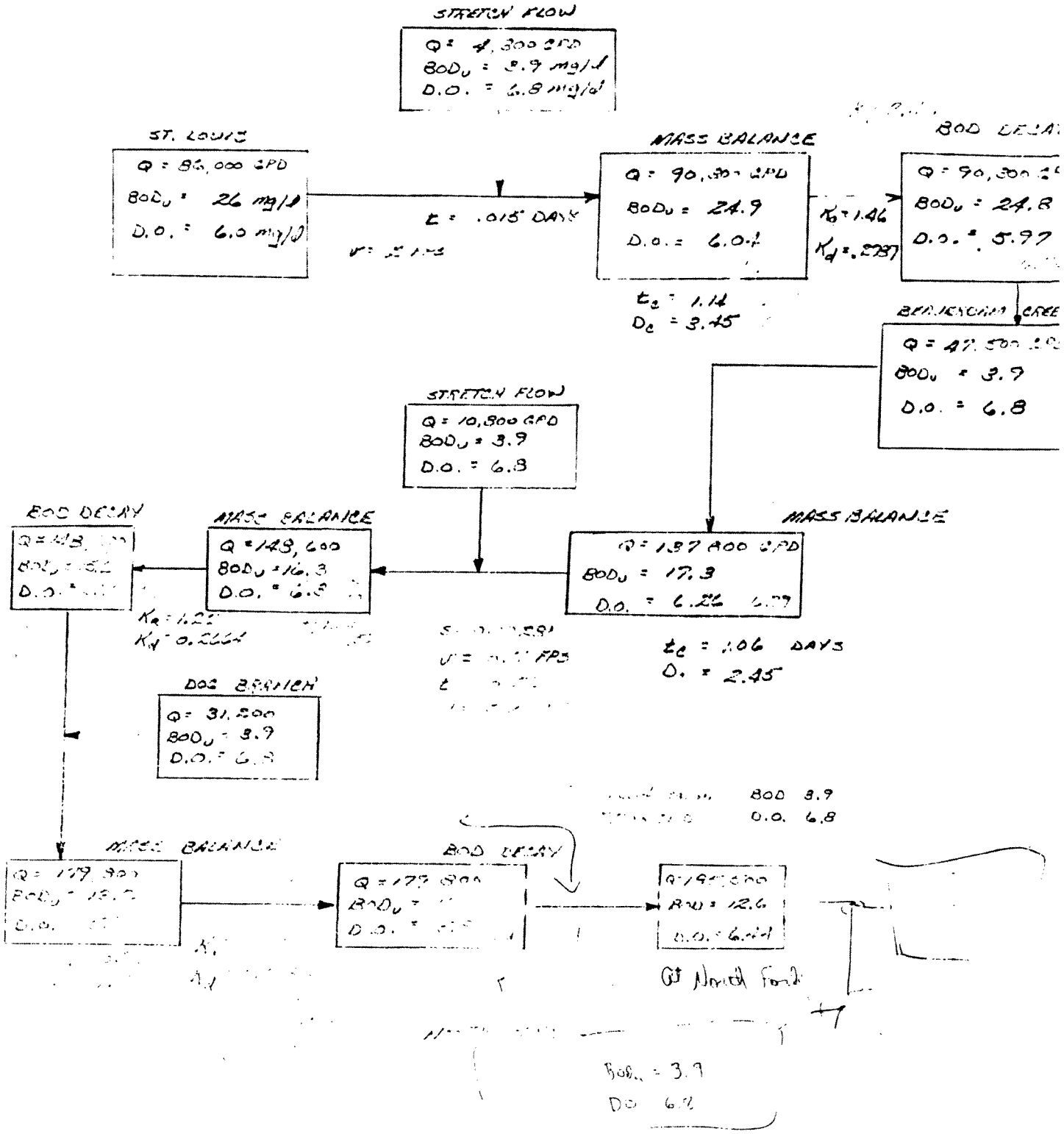
47500
10300
31200
89500
5700
68000
163200

to Dog Br.

COPY



Q = 10,800 CFS
BOD$_u$ = 3.9
D.O. = 6.8
K_a = 2.44
ST. LOUIS
Q = 80,000 CFS
BOD$_u$ = 26 mg/l
D.O. = 6.0 mg/l
MASS BALANCE
BOD$_u$ = 24.9
D.O. = 6.04
t_c = 1.14 .87
D_c = 3.45 2.23
D.O. = 6.8
STATION FLOW
Q = 10,800 CFS
BOD$_u$ = 3.9
D.O. = 6.8
MASS BALANCE
Q = 143,600
BOD$_u$ = 16.3
BOD$_u$ = 17.3
DAYS
Q = 31,200
3.9
MASS BALANCE
Q = 179
BOD$_u$
6.65
6.66
K_a


STRETCH FLOW
Q = 4,300 GPD
BOD$_u$ = 3.9 mg/l
D.O. = 6.8 mg/l
ST. LOUIS
Q = 86,000 GPD
BOD$_u$ = 26 mg/l
D.O. = 6.0 mg/l
t = .015 DAYS
MASS BALANCE
Q = 90,300 GPD
BOD$_u$ = 24.9
D.O. = 6.0
K_r = 1.46
K_d = .237
t_c = 1.14
D_c = 3.45
Q = 90,300
BOD$_u$ = 24.8
D.O. = 5.97
Q = 47,500
BOD$_u$ = 3.9
D.O. = 6.8
STRETCH FLOW
Q = 10,800 GPD
BOD$_u$ = 3.9
D.O. = 6.8
MASS BALANCE
Q = 137,800 GPD
BOD$_u$ = 17.3
D.O. = 6.22
t_c = .106 DAYS
D. = 2.45
MASS BALANCE
Q = 143,600
BOD$_u$ = 16.3
D.O. = 6.3
K_r = 1.21
K_d = 0.2264
DO SAG
Q = 31,500
BOD$_u$ = 3.9
D.O. = 6.8
BOD 3.9
D.O. 6.8
BOD$_u$ = 3.9
DO 6.2

(2)

STREAM ASSIMILATION ANALYSIS

N in effluent of 10 ± 80 mg/l

Stream: _____ Date: _____

Discharge: _____

Topo Sheet: _____
Critical Discharge: _____
Gauging Station: _____

Computation Number	(1)		1.	
Drainage Area				
Stream temperature	30	30	30	30
Saturation D.O.				
D.O. Discharge				
K_1 (carbonacious).....				
K_n (nitrogenous)				
K_2 (reaeration)				
Flow, mgd (discharge)				
BOD_5 (discharge)				
NOD_u (discharge				
Flow, mgd (stream).....				
BOD_5 (stream)				
NOD_u (stream)				
Length of segment (mi)				
Velocity of stream (fps) ...				
D.O. (allowable)				
D.O. (stream)				
D.O. from allowable				
(Red indicates violation)				
Flow (combined).....				
BOD_5 decay @ t				
NOD_u decay @ t				
time, days				
D.O. @ t ("A" indicates ... Critical D.O.)				

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

mgd = (.646)cfs

Reviewer:

STREAM ASSIMILATION ANALYSIS

Stream: _____ Date: _____

Discharge: _____ Topo Sheet: _____

Critical Discharge: _____

Gauging Station: _____

Computation Number				
Drainage Area				
Stream temperature	30	30	30	30
Saturation D.O.	7.4	7.4	7.4	7.4
D.O. Discharge	6.8	6.8	6.8	6.8
K_1 (carbonacious).....	.18	.18	.18	.18
K_n (nitrogenous)	.1	.1	.1	.1
K_2 (reaeration)	5	5	5	5
Flow, mgd (discharge)	.046	.046	.032	.068
BOD_5 (discharge)	20	2	2	2
NOD_u (discharge	40	2	2	2
Flow, mgd (stream).....	.049	.132	.176	.2072
BOD_5 (stream)	2	19	6.3	5.6
NOD_u (stream)	2	35	20	16
Length of segment (mi)	2	2	.175	1
Velocity of stream (fps) ...	2	2	1	1
D.O. (allowable)	5	5.0	6.6	6.6
D.O. (stream)	7.4	7.4	6.73	6.61
\ D.U. from allowable	.4	.1321	.006	.07
(Red indicates violation)				
Flow (combined).....	.0952	.176	.2072	.2752
BOD_5 decay @	19	6.3	5.6	3.7
NOD_u decay @ t	37	20	13.1	13
time, days	.0252	.0952	.1059	.0952
D.O. @ t ("A" indicates ... Critical D.O.)	7.4	6.73	6.61	6.7

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary.]

Subjects _____ Author: _____

STREAM ASSIMILATION ANALYSIS

Stream: Beaverdam Cr. | Date: 8/10/79
Discharge: [illegible] TKN=9, V=2.1 | Topo Sheet: Blairmont [illegible]
Critical Discharge:
Gauging Station:

Computation Number	Into Bv. Strm	[illegible]	[illegible]	
Drainage Area		[illegible]		
Stream temperature	30	30	30	
Saturation D.O.	7.4	7.4	7.4	
D.O. Discharge	6.8	6.8	[illegible]	
K_1 (carbonacious)........	.18	.18	.18	
K_n (nitrogenous)	.1	.1	.1	
K_2 (reaeration)	5	5	[illegible]	
Flow, mgd (discharge)	.016	.080	.0310	
BOD_5 (discharge)	20	[illegible]	2	
NOD_u (discharge	40	[illegible]	2	
Flow, mgd (stream)..........	.0003	.0903	.1763	
BOD_5 (stream)	2	10	7	
NOD_u (stream)	[illegible]	32	20	
Length of segment (mi)	.5	2.2	7	
Velocity of stream (fps) ...	2	2	1	
D.O. (allowable)	[illegible]	6.6	6.6	
D.O. (stream)	[illegible]	7.4	6.81	
Δ D.O. from allowable ...... (Red indicates violation)	2.4	.20	-.05	
Flow (combined).............	.0903	.1763	.2075	
BOD_5 decay @	10	8.3	5	
NOD_u decay @ t	32	20	15.6	
time, days	[illegible]	.0672	[illegible]	
D.O. @ t ("A" indicates Critical D.O.) ...	7.4	6.81	[illegible] A	

[illegible]

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined [illegible] become the new "stream" data and new flow [illegible] to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. (K1, Kn and K2 must be adjusted as necessary.)

[illegible] (.646, [illegible]

[illegible]r: ____________

(B) Use 7-55, pg

STREAM ASSIMILATION ANALYSIS

Stream: Four Mile Creek

Date: 2/12

Discharge: St. Louis, Mo. Use 1.5

Topo Sheet:

Critical Discharge:

Gauging Station:

Computation Number	Units Pre-Str.	Mun. WWTP	Units Pre-Str.	Mun. WWTP	[illegible]
Drainage Area					
Stream temperature	30	30	30	30	30
Saturation D.O.	7.4	7.4	7.4	7.4	7.4
D.O. Discharge	6.8	6.8	6.8	6.8	6.6
K_1 (carbonacious).....	.19	.18	.19	.19	.19
K_n (nitrogenous)	.1	.1	.1	.1	.1
K_2 (reaeration)	5	5	5	5	5
Flow, mgd (discharge)	.086	.086	.086	.086	.0712
BOD_5 (discharge)	20	2	20	2	2
NOD_u (discharge	40	2	28	2	2
Flow, mgd (stream).....	.0003	.0203	.0003	.0203	.1763
BOD_5 (stream)	2	19	2	19	8.2
NOD_u (stream)	2	38	2	21	11
Length of segment (mi)	.5	2.2	.5	2.2	7
Velocity of stream (fps) ...	1	1	1	1	.5
D.O. (allowable)	5	6.6	5	6.6	6.6
D.O. (stream)	6.7	6.57	6.8	[illegible]	6.61
D.O. from allowable	1.57	-.18	1.65	.01	.06
(Red indicates violation)					
Flow (combined).....	.0903	.1763	.0903	.1763	.2075
BOD_5 decay @	19	8.2	19	8.2	5.6
NOD_u decay @ t	38	19	21	11	8.5
time, days	.0705	.1796	.0705	.1796	.0416
D.O. @ t ("A" indicates ...	6.57	6.42	6.65	6.61	6.66 A
Critical D.O.)		Violation	TN=5 NOD=22		

nK ↑ Critical point

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

[illegible]: [illegible]

(C)

STREAM ASSIMILATION ANALYSIS

Stream: Beaverdam Creek

Date: 8/[illegible]

Discharge: Flow RK = 0 yr = 5, 25

Topo Sheet:

Critical Discharge:

Gauging Station:

Computation Number	[illegible]	[illegible]	[illegible]	[illegible]	366 Sag Eq
Drainage Area					
Stream temperature	30	30	30	30	30
Saturation D.O.	7.4	7.4	7.4	7.4	7.4
D.O. Discharge	6.8	6.8	6.8	6.8	6.8
K_1 (carbonacious).....	.18	.18	.18	.18	.18
K_n (nitrogenous)	.1	.1	.1	.1	.1
K_2 (reaeration)	5	5	5	5	5
Flow, mgd (discharge)	.086	.086	.086	.086	.086
BOD_5 (discharge)	20	2	20	2	2
NOD_u (discharge	20	2	20	2	2
Flow, mgd (stream).....	[illegible]	.0003	.0003	.0003	[illegible]
BOD_5 (stream)	2	10	2	10	10
NOD_u (stream)	2	21	2	21	21
Length of segment (mi)	.5	.26	.5	.26	[illegible]
Velocity of stream (fps) ...	.5	.5	.5	.5	.5
D.O. (allowable)	5	6.6	5	6.6	6.6
D.O. (stream)	6.8	6.57	6.8	6.57	6.57
\ D.O. from allowable	1.37	-.3	1.52	-.03	.037
(Red indicates violation)					
Flow (combined).....	.3903	.176	.0903	.1763	.2503
BOD_5 decay @	10	7.0	19	7.9	5.4
NOD_u decay @ t	20	10	21	11	9.6
time, days	[illegible]	.26	.06	.26	[illegible]
D.O. @ t ("A" indicates ...	6.37	6.6	6.82	6.57	[illegible]
Critical D.O.)					

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [k], K_n and K_2 must be adjusted as necessary.

[illegible] = (.646)cfs

Water:

(1)

STREAM ASSIMILATION ANALYSIS

Stream: _____ Date: _____

Discharge: _____ Topo Sheet: _____

Critical Discharge: _____

Gauging Station: _____

	1	2		
Computation Number	STP, D.O.	[illegible]	Sample (1)	
Drainage Area	[illegible]		[illegible]	
Stream temperature	[illegible]	30	30	
Saturation D.O.		7.4	7.4	
D.O. Discharge		6.8	6.6	
K_1 (carbonaceous).....		.18	.17	
K_n (nitrogenous)		.18	.11	
K_2 (reaeration)		5		
Flow, mgd (discharge)		.086	.086	
BOD_5 (discharge)				
NOD_u (discharge				
Flow, mgd (stream).....		.0903	.0903	
BOD_5 (stream)		19	19	
NOD_u (stream)		0	0	
Length of segment (mi)		3	3	
Velocity of stream (fps) ...		2	2	
D.O. (allowable)		7.2	6.6	
D.O. (stream)		7.4	7.4	
Δ D.O. from allowable		-.16	.44	
(Red indicates violation)				
Flow (combined).....	.0903	.176	.176	
BOD_5 decay @ t		8.3	8.3	
NOD_u decay @ t			0	
time, days			.09	
D.O. @ t ("A" indicates Critical D.O.) ...			7.0	

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

Qmd = [illegible] cfs

(57)

STREAM ASSIMILATION ANALYSIS

Assume TKN of 5 mg/l = 22 UNOD

Stream: ______________________ Date: ______________

Discharge: ______________________ Topo Sheet: ______________

Critical Discharge: ______________

Gauging Station: ______________

	[illegible]	with B.L. [illegible]		
Computation Number	[illegible]	to Dr[illegible]	[illegible]	[illegible]
Drainage Area			[illegible]	
Stream temperature	30	30	30	30
Saturation D.O.	7.[illegible]	7.4	7.[illegible]	7.4
D.O. Discharge	6.7	6.8	[illegible].8	6.[illegible]
K_1 (carbonacious)	.17	.18	.18	[illegible]
K_n (nitrogenous)	[illegible]	.1	.1	[illegible]
K_2 (reaeration)	5	5	5	5
Flow, mgd (discharge)	.086	.0583	.0312	.068
BOD_5 (discharge)	20	2	2	2
NOD_u (discharge	22	2	2	2
Flow, mgd (stream)	.0043	.0903	.1496	.1798
BOD_5 (stream)	[illegible]	10	9	[illegible]
NOD_u (stream)	[illegible]	[illegible]	13	[illegible]
Length of segment (mi)	.5	[illegible]	1.75	1
Velocity of stream (fps)	[illegible]	2	1	1
D.O. (allowable)	[illegible]	6.6	[illegible]	[illegible]
D.O. (stream)	[illegible]	7.4	[illegible]	[illegible]
Δ D.O. from allowable (Red indicates violation)	[illegible]	.2[illegible]	.14	.186
Flow (combined)	[illegible]	.1475	.1798	.2[illegible]7
BOD_5 decay @ t	[illegible]	[illegible]	5.[illegible]	[illegible]
NOD_u decay @ t	[illegible]	[illegible]	10.8	7.[illegible]
time, days	[illegible]		.[illegible]	[illegible]
D.O. @ t ("A" indicates Critical D.O.)	[illegible]	[illegible]	6.[illegible]	[illegible]

C [illegible] p[illegible]

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

mgd = (.646)cfs

Reviewer: ______________

(3.2)

STREAM ASSIMILATION ANALYSIS

Stream: _____ Date: _____

Discharge: _____ Topo Sheet: _____

Critical Discharge: _____

Gauging Station: _____

A=30 N=50

Computation Number	1	2	Mixing Zone	Mixed D. Zone
Drainage Area				
Stream temperature	30	30	30	30
Saturation D.O.	7.4	7.4	7.4	7.4
D.O. Discharge	6.8	6.8	6.8	6.8
K_1 (carbonacious).....	.18	.18	.18	.18
K_n (nitrogenous)	.1	.1	.1	.1
K_2 (reaeration)	5	5	5	5
Flow, mgd (discharge)	.086	.086	.086	.086
BOD_5 (discharge)	20	2	20	2
NOD_u (discharge	50	2	50	2
Flow, mgd (stream).....	.0817	.0903	.0903	.0903
BOD_5 (stream)	2	19	2	19
NOD_u (stream)	2	21	2	47.5
Length of segment (mi)	.5	3	.5	3
Velocity of stream (fps) ...	2	2	2	2
D.O. (allowable)	5	6.6	5	6.6
D.O. (stream)	7.4	7.6	7.8	7.4
Δ D.O. from allowable	2.4	+.2	2.4	.06
(Red indicates violation)				
Flow (combined).....	.1703	.1793	.0903	.176
BOD_5 decay @ t	19	8	19	8.3
NOD_u decay @ t	20	15	47.5	24.7
time, days	.0152	.0116	.0152	.0116
D.O. @ t ("A" indicates Critical D.O.) ...	7.4	6.6	7.4	6.66

OK.

Rains Roden

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

mgd = (.646)cfs

Reviewer: _____

3 Vr

STREAM ASSIMILATION ANALYSIS

Stream: _____ Date: _____

Discharge: _____ Topo. Sheet: _____

Critical Discharge: _____

Gauging Station: _____

Computation Number	[illegible]	[illegible]		
Drainage Area				
Stream temperature	30			
Saturation D.O.	[illegible]			
D.O. Discharge	6.8			
K_1 (carbonacious).....	.19			
K_n (nitrogenous)	.1			
K_2 (reaeration)	5			
Flow, mgd (discharge)	.0312			
BOD_5 (discharge)	2			
NOD_u (discharge	2			
Flow, mgd (stream).....	.176			
BOD_5 (stream)	8.3			
NOD_u (stream)	24.7			
Length of segment (mi)	1.75			
Velocity of stream (fps) ...	1			
D.O. (allowable)	6.8			
D.O. (stream)	[illegible]			
Δ D.O. from allowable	-0.1			
(Red indicates violation)				
Flow (combined).....	0.2012			
BOD_5 decay @ t	5.6			
NOD_u decay @ t	20.7			
time, days	.1069			
D.O. @ t ("A" indicates ...	[illegible]			
Critical D.O.)	[illegible]			

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

mgd = (.646)cfs

Reviewer: _____

St. Louis

STREAM ASSIMILATION ANALYSIS

Stream: 7/10 Stream flow

Date: 7/30

Discharge:

Topo. Sheet:

Critical Discharge:

Gauging Station:

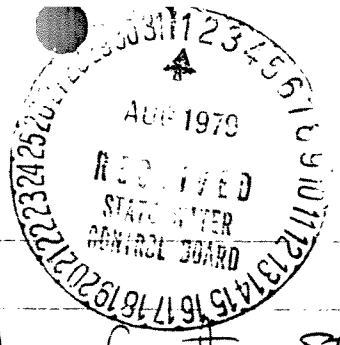
Computation Number	Upstream Stn.	Dog Br.	Add Dog Br.	
Drainage Area				
Stream temperature	30	30	30	
Saturation D.O.	7.4	7.4	7.4	
D.O. Discharge	6.8	6.8	6.8	
K_1 (carbonacious).....	.18	.18	.18	
K_n (nitrogenous)	.1	.1	.1	
K_2 (reaeration)	5	5	5	
Flow, mgd (discharge)	.0146	.0583	.0312	
BOD_5 (discharge)	20	2	2	
NOD_u (discharge	50	2	2	
Flow, mgd (stream).....	.0063	.0903	.1486	
BOD_5 (stream)	2	19	9	
NOD_u (stream)	3	2.5	29	
Length of segment (mi)	.5	3	1.75	
Velocity of stream (fps) ...	2	2	1	
D.O. (allowable)	6.6	6.6	6.6	
D.O. (stream)	7.2	7.4	6.6	
Δ D.O. from allowable	2.4	0	-.18	
(Red indicates violation)				
Flow (combined).....	.0903	.1486	.1798	
BOD_5 decay @ t	4	9	5.9	
NOD_u decay @ t	43	29	24	
time, days	.0156	.0916	.1062	
D.O. @ t ("A" indicates ...	7.4	6.6	6.42	
Critical D.O.)				

Note: At the end of each segment, if critical D.O. has not been reached, the next stream segment should be analyzed. The parameter values determined @ time = t become the new "stream" data and new flows introduced to the stream (eg: tributaries, STP discharges, stretch flows) become the new "discharge" data. [K_1, K_n and K_2 must be adjusted as necessary]

mgd = (.646)cfs

Reviewer:

VA0062187



Subj: Loudoun County - St. Louis STP / C-510521
To: Dale Phillips - BWCM
From: Gary N. Moore - NRO
Date: July 30, 1979

I have completed the latest modelf for St. Louis and come up with these results:

7/10

Assuming a stream flow, and no additional holding time at the STP, an effluent of 20 mg/l BOD_5, & 5 mg/l TKN and 6.8 mg/l D.O. will meet anti-degradation standards.

I also believe that an effluent of 30 mg/l BOD_5, ≈ 12 mg/l TKN & 6.8 mg/l D.O. will meet standards, if the present additional 30 day holding at design flow is maintained & no discharge to the stream is made when stream flow falls below 0.086 mgd. Please verify this & let me know.

Date	Well Number	Hardness (mg/L)	Alkalinity (mg/L)	Ammonia (mg/L)	Chloride (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	COD (mg/L)	Spec Cond (umhos/cm)	TDS (mg/L)	E. coli (mpn/cmL)	TOC (mg/L)	pH (s.u.)	Temp (deg C)	
9/28/2010	1	Well	was	dry											
9/16/2009	1	Well	was	dry											
3/18/2009	1	Well	was	dry											
9/3/2008	1	Well	was	dry											
3/24/2008	1	150	30	ND	79	0.13	ND	71	450	270		5.2	6	11.4	No Bacteria results found in file
9/27/2007	1	Well	was	dry											
3/21/2007	1	88	38	ND	27	2	ND	ND	240	140	<1	ND	5.4	14.6	
9/28/2010	2	160	65	ND	110	0.58	ND	ND	640	550	<2	1.4	6	14.3	
9/16/2009	2	520	64	0.24	150	1.1	0.005	ND	660	780	<2	ND	6.1	14.7	
3/18/2009	2	210	57	0.5	280	0.93	ND	ND	530	360	<2	1.1	6.1		
9/3/2008	2	220	66	0.2	110	0.75		ND	530	450	<2	ND	6.3	14.8	Nitrite not included on COA
3/24/2008	2	240	64	ND	83	0.53	ND	13	490	290		ND	6	13.3	No Bacteria results found in file
9/27/2007	2	240	64	ND	110	0.95	ND	ND	540	420	<1	ND	6.5		
3/21/2007	2	200	67	ND	66	0.8	ND	ND	420	310	<1	ND	5.8	13.8	
9/28/2010	3	170	120	ND	160	ND	ND	27	940	420	500	2.1	6.3	14.8	
9/16/2009	3	400	120	ND	250	ND	ND	ND	1100	460	4	1.6	6.2	14.7	
3/18/2009	3	200	110	ND	270	0.04	ND	ND	1100	610	<2	1.7	6.1		
9/3/2008	3	230	110	0.2	260	ND		ND	1300	790	2	ND	6.3	14.9	Nitrite not included on COA
3/24/2008	3	340	120	ND	310	ND	ND	11	1300	670		1.5	6.1	12.6	No Bacteria results found in file
9/27/2007	3	240	110	ND	290	ND	ND	16	1200	690	<1	2.1	6.3		
3/21/2007	3	170	58	ND	200	ND	ND	ND	810	460	1.3	ND	5.5	13.3	
9/28/2010	4	280	88	ND	170	ND	ND	ND	900	670	<2	1.4	6.2	15.2	
9/16/2009	4	590	83	ND	190	ND	ND	ND	850	690	<2	0.8	6.1	14.6	
3/18/2009	4	250	88	ND	65	0.05	ND	ND	730	480	<2	1.9	6.2		
9/3/2008	4	290	100	ND	170	ND		ND	810	630	<2	ND	6.3	14.7	Nitrite not included on COA
3/24/2008	4	290	86	ND	180	ND	ND	29	820	430		1.9	6.2	11.7	No Bacteria results found in file
9/27/2007	4	340	110	ND	170	ND	ND	ND	810	640	14	2.5	6.3		
3/21/2007	4	64	14	ND	12	0.23	ND	ND	130	78	<1	ND	5.2	12.7	
9/28/2010	5	170	140	ND	140	0.18	ND	ND	950	440	8	2.4	6.5	15.2	
9/16/2009	5	160	140	ND	210	0.46	ND	ND	1100	650	<2	2.1	6.4	15.2	
3/18/2009	5	150	110	0.3	220	0.43	ND	ND	1000	500	<2	2.3	6.1		
9/3/2008	5	210	130	ND	240	0.28		ND	1200	680	30	1.8	6.5	15.2	Nitrite not included on COA
3/24/2008	5	230	100	ND	320	0.06	ND	39	1300	670		2.7	6.4	12.5	No Bacteria results found in file
9/27/2007	5	260	120	ND	290	0.24	ND	ND	1300	670	3	3.3	6.4		
3/21/2007	5	200	110	ND	290	0.19	ND	ND	1100	590	2	1.1	6.1	14.2	
9/28/2010	6	170	100	ND	400	ND	ND	20	1600	800	>1600	7.9	6.5	18.8	
9/16/2009	6	120	120	ND	260	ND	ND	ND	1100	570	80	3.1	6.5	17.8	
3/18/2009	6	150	100	ND	240	ND	ND	ND	1100	510	<2	4	6.6		
9/3/2008	6	180	100	ND	250	ND		ND	1200	650	2	2.6	6.5	17.6	Nitrite not included on COA
3/24/2008	6	200	52	ND	410	ND	ND	36	1400	720		4.6	6.4	10.3	No Bacteria results found in file
9/27/2007	6	200	110	ND	290	ND	ND	16	1200	640	61	3.6	6.3		
3/21/2007	6	170	68	ND	250	ND	ND	20	990	540	33	5	6.2	11.9	

Attachment 9

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Loudoun County, Virginia.

PUBLIC COMMENT PERIOD: XXX, 2011 to 5:00 p.m. on XXX, 2011

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Loudoun Water, PO Box 4000, 44865 Loudoun Water Way, Ashburn, VA 20146, VA0062189

NAME AND ADDRESS OF FACILITY: St. Louis WWTP, 151 Newlin Mill Rd, St Louis, VA 20117

PROJECT DESCRIPTION: Loudoun Water has applied for a reissuance of a permit for the public St. Louis WWTP. The applicant proposes to release treated sewage wastewaters from residential areas at a rate of 0.086 million gallons per day into a water body. The facility proposes to release the treated sewage in Beaverdam Creek, UT in Loudoun County in the Potomac watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, BOD, Total Residual Chlorine, Total Suspended Solids, Ammonia as Nitrogen, Dissolved Oxygen, and E. coli.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Alison Thompson
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3834 E-mail: Alison.Thompson@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: St. Louis WWTP
NPDES Permit Number: VA0062189
Permit Writer Name: Alison Thompson
Date: 4/6/2011

Major [ ] **Minor** [X] **Industrial** [ ] **Municipal** [X]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit? PCBs		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water? Bacteria and Benthic	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs

(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	**Yes**	**No**	**N/A**
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	**Yes**	**No**	**N/A**
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	**Yes**	**No**	**N/A**
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	**Yes**	**No**	**N/A**
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?	X		
4. Does the permit require testing for Whole Effluent Toxicity?		X	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?	X		

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset
Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?			

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Alison Thompson
Title	Water Permits Technical Reviewer
Signature	
Date	4/6/11